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“Bridging the gap between increasing knowledge and decreasing resources”

Socio-Economic Impact of Inle Lake Shoreline Changes on Surrounding Communities in Myanmar

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Abstract

People living in water and lakeshore area of Myanmar's Inle Lake rely largely on floating garden and lakeshore farming systems. As wetland agriculture, the latter allow the year-round cultivation of a range of crops. This land use has subjected the watershed areas to excessive deforestation with subsequent serious damage to the wetland ecosystems and changes in the lakeshore area, resulting in changes of livelihood opportunities which, however, are poorly understood.

The aim of this study therefore was to assess the effects of lakeshore area changes on residents' livelihood in the floating garden, lowland and upland cultivation zone of the Inle Lake region. Based on a stratified random sampling design 300 households (HH) were interviewed using semi-structured questionnaires to collect socio-economic base data on livelihood strategies. The three agricultural zones differed in cultivated area, total household asset, agricultural income and input use (pesticide and manure) as well as livestock units and income

Annually floating gardens contributed \$2108 and lakeshore \$892 to total HH gross margin (GM). In floating gardens, cultivation of tomato as cash crop led to the highest potential income and average GM was \$5276 ha⁻¹yr⁻¹. At lakeshores, rice and sugarcane were the main crops and their contributions to GM were \$418 and \$629 ha⁻¹ yr⁻¹. Agriculture, livestock production and off-farm activities contributed 85, 1, and 14 % to annual income of floating garden households and 74, 5, and 21 % to annual income of lakeshore HH.

Highest profits came from tomato plantation on floating garden, but this also caused environmental degradation following intensive application of mineral fertilisers and pesticides.

Keywords: Floating gardens, Inle Lake, Lakeshore shrinkage, livelihoods